REMARKS/ARGUMENTS

The office action of October 19, 2004 has been carefully reviewed and these remarks are responsive thereto. Reconsideration and allowance of the instant application are respectfully requested. Claims 1 and 3-7 have been amended and new claims 11 and 12 have been added to correspond to claims allowed in Europe and to provide clarifications. Claims 2 and 8-10 have been canceled.

The indication that claims 3-4, 6-7, and 9-10 are allowable over the prior art is appreciated.

Claims 1, 2, 5, and 8 stand rejected under 35 U.S.C. 103(a) as unpatentable over the admitted prior art in view of Aoki.

The present invention is directed to a mold for use in a thermoforming process. A thermoforming process is particularly useful for forming thin walled products such as packages. It is important to keep manufacturing costs of the product as low as possible. To this end the mold of the present invention comprises a number of cavities. A number of products may be formed in a single process cycle, with a given amount of sheet or layer surface. The closer the cavities are positioned with respect to each other, the more products may be formed in a single cycle, and hence the lower the manufacturing cost will be per product.

The claimed invention not only improves the packing density of the cavities, the cavity walls remain movable between a first and second position to retain the capability of releasing products which are not self-releasing.

The device of claim 1 recites that the cavity wall segments are linearly movable in a first direction (parallel to a plane of the mold) and the segments are driven by a linear drive member which acts in a direction substantially perpendicular to that plane. Moreover, the linear drive member resides substantially in a space underneath the cavity. A coupling between the drive member and the segments converts the direction of movement.

Due to this construction, the segments do not need driving means in between the cavities which would otherwise limit the packing density of the cavities. Instead the linear drive member extends underneath the cavity and is driven without compromising the packing density. Instead, the minimum pitch of adjacent cavities in the mold is determined by the expanded size of the cavities required for releasing the products in the second position.

None of the admitted prior art or Aoki, taken alone or together, teaches or suggests the device according to the present invention.

GB 1,205,694, cited during prosecution of the corresponding EP application, discloses a mold assembly comprising a number of cavities, enclosed by cavity walls. The wall segments, forming said cavity walls, are movable between a first and second position. A product formed within the cavity is released in the second position. However, contrary to the present invention, the wall segments are not linearly movable but follow a rotational movement around a pivot located near a base of the cavity.

The rotational movement has a significant disadvantage in that the amount of spreading at the base is considerably less than at the opposite side of the cavity. This means that in order to have sufficient spreading, particularly at the base, the cavity becomes wider than necessary. This considerably reduces the maximum packing density of the cavities in the mold.

By allowing the wall segments to follow a linear movement, the instant invention allows an equal amount of spreading at the base and at the top of the cavities, thereby obviating the disadvantage of the GB patent.

As noted in the Office Action, the admitted prior art of cited in the specification fails to teach or suggest a cavity wall divided into segments, and a drive element to drive these segments between a first position and a second position.

Aoki describes a number of subdivided cavities combined in a mold. Each cavity is divided in two. The drive means (4, 4a, 5, 5a, 6, 6a) of the cavity wall segments, however, are positioned in between the individual cavities as can be clearly seen in figure 4. Accordingly,

such drive means will diminish the packing density of the assembly. There is no teaching or suggestion in Aoki as to how to avoid this drawback. Moreover, Aoki does not teach or suggest how a sheet or layer of material may be fed to the mold. Aoki does not remedy the defects of the GB patent or the admitted prior art cited in the specification.

The prior art fails to teach or suggest how a number of cavities could be combined into a compact mold assembly having a drive member operating in a perpendicular direction underneath a cavity as claimed herein. The drive means of Aoki teaches away from the linear drive member of the instant claims. Moreover, Aoki's cavities are only divided into two segments and could not function with additional segments. Aoki does not remedy the defects of the admitted prior art or the GB patent. Withdrawal of the instant rejection is requested.

CONCLUSION

In view of the above remarks, withdrawal of the instant rejections and issuance of a Notice of Allowance is respectfully requested.

Respectfully submitted,

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